## Abstract

Composite membranes comprising at least one porous substrate layer and at least one microporous separation layer, comprising at least one zeolite of the MFI type, are described, the separation layer being produced by a hydrothermal synthesis in which the molar ratio of silicon to aluminum is greater than 120 and the separation layer contains less than 10% by weight of aluminum in elemental or chemically bound form in a zone of at least 100 nm adjacent to the separation layer.